

Questioned Documents Unit (QDU)

Procedures for Conducting Handwriting/Hand Printing Examinations

1 Scope

These procedures will be used by a forensic document examiner to conduct examinations on items containing handwriting and/or hand printing, **Redact** for the purpose of determining its origin and/or authenticity.

2 Equipment/Materials/Reagents

- Fostec 150 watt tungsten halogen light, or comparable equipment
- Laboratory Supplies Co., Inc. 30 watt transmitted light box, or comparable equipment
- Hand magnifier (minimum magnification, 4X)
- Leica stereomicroscope (minimum magnification, 6.3X), or comparable equipment

3 Standards and Controls

Not Applicable.

4 Sampling

Not Applicable.

5 Procedures

5.1 Visually examine the questioned, and where applicable, known items using lighting and magnification sufficient to allow fine detail to be distinguished to determine whether the writing is original writing.

5.1.1 If the questioned writing is not original and was not submitted by the contributor as a copy, determine the technology used to prepare the text. Refer to the *QDU Procedures for Conducting Graphic Arts, Photocopier, and Printer Examinations*, if needed.

5.2 If the questioned and/or known writing is original, determine if the writing is freely and naturally prepared through visual and microscopic examination. **Redact**

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5.3 If the questioned and/or known writing are or appear to be freely and naturally prepared, analyze using lighting and magnification to determine if there is a sufficient quantity and quality of writing for comparison purposes. Determine the skill level and range of variation exhibited in each item, if possible.

5.4 Using sufficient lighting and magnification, analyze the class and distinguishing (individual) characteristics to determine the contemporaneousness and comparability between the questioned and/or known writing .

- Class characteristics may include: shapes of letters, letter formations, distinctive characters such as Greek Es, speed Ts.
- Distinguishing/Individual characteristics may include: slant of letters, spacing between letters and words, size of the writing, alignment, height relationships, connecting strokes, distinctive parts of letters, angles formed by adjacent parts of letters, and peculiarities of beginning and ending strokes.

5.4.1 Determine if there is more than one style of writing within the questioned and/or known writing. Note in the examination records if there are inconsistencies or unexplained handwriting characteristics present within the bodies of writing. It may be necessary to contact the contributor for authentication.

5.4.2 If the submitted known writing is not sufficiently comparable to the questioned writing, Redact this procedure may be discontinued at the analysis stage. Ensure all other pertinent examinations (e.g., indented writing) have been completed and report accordingly.

5.4.2.1 Note: In the absence of exact wording between items, the same letter combinations and/or similar words are sufficient for comparison purposes. For example, if the questioned writing contains the word “there”, comparing this to the words “the” and “are” in the known writing is acceptable.

5.4.2.2 If comparability in wording or letter combinations is the limitation, request comparable known writing, providing adequate instructions.

5.5 Analyze the questioned writing, determining if sufficient distinguishing characteristics are present to continue examinations (e.g., the questioned handwriting is suitable for comparison).

5.5.1 If enough distinguishing characteristics are present, continue to the comparison phase.

5.5.2 If a sufficient number of distinguishing characteristics are not present, discontinue examinations and report accordingly.

5.6 Conduct a side-by-side comparison with exclusively questioned or questioned and known items using the following symbols in examiner work notes to record the various characteristics observed in the handwriting/hand printing that will be used in the formulation of examiner findings/opinions:

- ○→ - Indicating an unexplained characteristic, unexplained variation, inconsistency, or an accidental characteristic.
- → - Indicating a similarity, consistency, natural variation, or characteristics in common.
- +→ - Indicating a difference.

Assess the combination of distinguishing (individual) and class characteristics observed in the questioned writing and attempt to account for those characteristics based on the available known writing. It should be noted that it is possible that characteristics present in the known writing may not be observed in the questioned writing. This is acceptable, often expected and does not preclude a 'source identification' or 'source exclusion'. Determine if the variation and skill level in the questioned writing are within the limits set by the known writing.

5.7 Evaluate the similarities, differences, unexplained characteristics, and limitations to determine their significance independently and in combination. Form a conclusion based on results of the above analyses, comparisons, and evaluations.

5.8 Ensure all notes, data, and observations used to support the conclusions derived from the examination are recorded in the examination records. Include any reference information, image files, printouts or photographs, overlays, drawings or images, or distinguishing/eliminating characteristics that support your findings or conclusions.

5.9 Conclusions

- **Source identification (i.e., identified)**
'Source identification' is an examiner's conclusion that two or more bodies of writing were prepared by the same writer. This conclusion is an examiner's opinion that 1) the observed quality and quantity of similar

characteristics are such that the examiner would not expect to see that same combination of characteristics repeated in a body of writing prepared by another writer; 2) there are no significant dissimilarities to conclude that the bodies of writing were not prepared by the same writer; and 3) there are no significant limitations with the items examined or the circumstances considered (e.g. the writer's skill level, sufficient number of known standards).

The basis for a 'source identification' conclusion is an examiner's opinion that the observed similar characteristics provide extremely strong support for the proposition that the bodies of writing were prepared by the same writer and extremely limited or no support for the proposition that the writings were prepared by different writers.

A 'source identification' is the statement of an examiner's opinion (an inductive inference) that the probability that a different writer prepared the questioned body of writing is so small that it is negligible.

- **Support for common source**

'Support for common source' is an examiner's conclusion that two or more bodies of writing may have been prepared by the same writer. This conclusion is an examiner's opinion that 1) the bodies of writing exhibit a prevalence of similar characteristics to indicate they may have been prepared by the same writer; 2) there are insufficient dissimilar characteristics to indicate that the bodies of writing may not have been prepared by the same writer; and 3) the bodies of writing have limitations that prevent the examiner from providing a 'source identification' conclusion. The degree of 'support for common source' may range from limited to strong.

The basis for a 'support for common source' conclusion is an examiner's opinion that the observed similar characteristics provide limited to strong support for the proposition that the bodies of writing may have been prepared by the same writer and insufficient support for the proposition that the writings may have been prepared by different writers.

- **Inconclusive**

'Inconclusive' is an examiner's opinion that no determination can be reached as to whether two or more bodies of writing were prepared by the same writer or by different writers.

The basis for an 'inconclusive' conclusion is an examiner's opinion that the bodies of writing have limitations that prevent the examiner from providing any conclusion regarding probable authorship.

- **Support for different sources**

‘Support for different sources’ is an examiner’s conclusion that two or more bodies of writing may not have been prepared by the same writer. This conclusion is an examiner’s opinion that 1) the bodies of writing exhibit a prevalence of dissimilar characteristics to indicate they may not have been prepared by the same writer; 2) there are insufficient similar characteristics to indicate that the bodies of writing may have been prepared by the same writer; and 3) the bodies of writing have limitations that prevent the examiner from making an ‘exclusion’ conclusion. The degree of ‘support for different sources’ may range from limited to strong.

The basis for a ‘support for different sources’ conclusion is an examiner’s opinion that the observed dissimilar characteristics provide limited to strong support for the proposition that the bodies of writing may have been prepared by different writers and insufficient support for the proposition that the writings may have been prepared by the same writer.

- **Source exclusion (i.e., excluded)**

‘Source exclusion’ is an examiner’s conclusion that two or more bodies of writing were not prepared by the same writer. This conclusion is an examiner’s opinion that the bodies of writing exhibit different handwriting characteristics and there are no significant limitations with the items examined or the circumstances considered (e.g., the writer’s skill level, sufficient number of known standards, eliminating the possibility of alternative writing styles).

The basis for a ‘source exclusion’ conclusion is an examiner’s opinion that the observed different characteristics provide extremely strong support for the proposition that the bodies of writing were prepared by different writers and extremely limited or no support for the proposition that the writings were prepared by the same writer.

5.9.1 If a ‘source identification’ conclusion is rendered between a body of questioned writing and the known writing of a particular individual, no other handwriting comparison conclusions will be reported concerning the aforementioned body of identified questioned writing and any other known writers.

5.9.2 If an opinion is reached and it is determined that additional known writing may be beneficial, instructions will be provided within the report describing how to obtain comparable known writing.

6 Calculations

Not Applicable.

7 Measurement Uncertainty

Not Applicable.

8 Limitations

8.1 A conclusion provided during testimony or in a report is ultimately an examiner's decision and is not based on a statistically derived or verified measurement or comparison to all other bodies of writing.

8.2 When offering a 'support for common source' conclusion, the examiner shall explain the limitations that prevented a 'source identification' conclusion. Likewise, when offering a 'support for different sources' conclusion, the examiner shall explain the limitations that prevented a 'source exclusion' conclusion.

8.3 The factors that may affect the examination process and/or the results rendered include:

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- Lack of/limited contemporaneous and/or comparable known writing for comparison.

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- Prior destructive forensic examinations such as latent print processing.
- Lack of sufficient suitable characteristics for comparison.

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9 Safety

Standard precautions should be followed for the handling of chemical and biological materials. Examiners/analysts may refer to the *FBI Laboratory Safety Manual* for additional guidance.

Chemical and biological materials that are hazardous or potentially hazardous will be maintained and examined in specifically designated areas within the QDU space.

10 References

QDU Standard Operating Procedures Manual

QDU FBI Approved Standards for Scientific Testimony and Report Language for Forensic Document Comparisons

FBI Laboratory Safety Manual

ASTM, E 2290, "Standard Guide for Examination of Handwritten Items," Annual Book of ASTM Standards, Vol. 14.02

United States Department of Justice Uniform Language for Testimony and Reports for Forensic Document Examination (available at justice.gov/olp/uniform-language-testimony-and-reports)

Bradford, Russell R., and Bradford, Ralph B., *Handwriting Examination and Identification*, Nelson-Hall Publishers, Chicago, IL. 1992.

Conway, James V.P., *Evidential Documents*, Charles C. Thomas, Publisher, Springfield, IL. 1959.

Harrison, Wilson R., *Suspect Documents*, Nelson-Hall Publishers, Chicago, IL. 1981.

Hilton, Ordway, *Scientific Examination of Questioned Documents Revised Edition*, Elsevier Science Publishing Co., New York, NY. 1982

Osborn, Albert S., *Questioned Documents Second Edition*, Nelson-Hall Co., Chicago, IL. 1929.

Seaman Kelly, J., and Lindblom, B., Editors, *Scientific Examination of Questioned Documents, Second Edition*, CRC Press, Boca Raton, FL. 2006.

Seaman Kelly, J., and Angel, M., Editors, *Forensic Document Examination In The 21st Century, First Edition*, CRC Press, Boca Raton, FL. 2021.

Rev. #	Issue Date	History
8	09/26/19	5.5 added “(e.g., the questioned handwriting is suitable for comparison.” 5.6, deleted “their” and added “examiner.” 5.8, deleted “and/or” “s” after “image” added “files,” or “images.” 5.9, bullets one, two, four, and five, added “or more.”
9	07/01/21	Made grammatical edits throughout. Section 5.1 removed “in order” and “to be examined”. Section 5.1.1 edited the first sentence for clarity and removed the last sentence. In section 5.2 added “observable” and in section 5.2.1 added “or does not appear” and removed the bulleted portions. In section 5.3, added “or appear to be” and “and quality” and removed “of suitable quality” and “and proceed”. Reworded section 5.4 for clarity and added “Distinguishing” to the second bullet. In section 5.5 replaced “unique and individualizing” with “distinguishing”. In sections 5.5.1 and 5.5.2 replaced “unique” with “distinguishing”. In section 5.6 added “distinguishing” and replaced “an identification” with “a ‘source identification” and “elimination opinion” with “‘source exclusion””. In section 5.7, replaced “individually” with “independently” and in section 5.8 replaced “identifying” with “distinguishing”. Section 5.9 was completely edited to remove all the old conclusions and replace them with the conclusions from the DOJ ULTR. Section 5.9.1 was added, and the previous section 5.9.1 was renumbered to 5.9.2 and reworded for clarity. Section 8.1 and section 8.2 were added, and previous section 8.1 was renumbered to 8.3 accordingly. Within the first bullet of section 8.3, “an identification” was changed to “a ‘source identification” and “elimination” was changed to “‘source exclusion””. The DOJ ULTR and “Forensic Document Examination In The 21 st Century” were added to section 10 as references and the title of the ASSTR was updated.

Redact - Signatures on File

Approval

Questioned Documents
Unit Chief

Date: 06/30/2021

Questioned Documents
Technical Leader

Date: 06/30/2021